181 FERC ¶ 61,230
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Richard Glick, Chairman;
James P. Danly, Allison Clements,
Mark C. Christie, and Willie L. Phillips.

North American Electric Reliability Corporation Docket No. RD23-2-000

ORDER DIRECTING REPORT

(Issued December 15, 2022)

1. As part of its ongoing oversight of the Bulk-Power System, and pursuant to section 39.2(d) of the Commission's rules and regulations,[1] the Commission directs the North American Electric Reliability Corporation (NERC), as the Commission-certified electric reliability organization (ERO), to conduct a study evaluating (1) the adequacy of the Applicability criteria set forth in the Physical Security Reliability Standard CIP-014-3 (Physical Security Reliability Standard); (2) the required risk assessment set forth in the Physical Security Reliability Standard; and (3) whether a minimum level of physical security protections should be required for all Bulk-Power System transmission stations and substations and primary control centers. We direct that NERC submit a report to the Commission on the study's findings and recommendations within 120 days of the date of this order.

I. Background

2. Section 215 of the Federal Power Act (FPA) provides that the Commission may certify an ERO, the purpose of which is to establish and enforce Reliability Standards, subject to Commission review and approval.[2] Once approved, the Reliability Standards may be enforced in the United States by the ERO, subject to Commission oversight, or by the Commission independently.

[1] 18 C.F.R. § 39.2(d) (2021) (the ERO "shall provide the Commission such information as is necessary to implement section 215 of the Federal Power Act").

[2] 16 U.S.C. § 824o.

3. In Order No. 802, issued in November 2014, the Commission approved the Physical Security Reliability Standard CIP-014-1.[3] The Commission also directed NERC to modify one provision of the Physical Security Reliability Standard and submit an informational filing.[4]

4. The stated purpose of the currently-effective version of the Physical Security Reliability Standard is to "identify and protect Transmission stations and Transmission substations, and their associated primary control centers, that if rendered inoperable or damaged as a result of a physical attack could result in instability, uncontrolled separation or Cascading within an interconnection."[5] The Physical Security Reliability Standard applies to transmission owners that own a transmission station or substation that meets any of the criteria identified in the Applicability section of the standard: (1) transmission facilities operated at 500 kV or higher; (2) transmission facilities that are operating between 200 kV and 499 kV at a single station or substation where the station or substation is connected at 200 kV or higher voltages to three or more other Transmission stations or substations and that exceeds an "aggregated weighted value" as defined in the standard; (3) transmission facilities at a single station or substation location that are identified by its reliability coordinator, planning coordinator, or transmission planner as critical to the derivation of interconnection reliability operating limits and their associated contingencies; and (4) transmission facilities identified as essential to meeting nuclear plant interface requirements.[6]

5. The Physical Security Reliability Standard requires applicable transmission owners to perform risk assessments on a periodic basis to identify their transmission stations and transmission substations that, if rendered inoperable or damaged, could result in instability, uncontrolled separation, or cascading within an Interconnection, as well as the primary control centers that operationally control each transmission station or transmission substation identified in the Requirement R1 risk assessment. The

[3] *Physical Sec. Reliability Standard*, Order No. 802, 149 FERC ¶ 61,140 (2014), *reh'g denied*, 151 FERC ¶ 61,066 (2015).

[4] Order No. 802, 149 FERC ¶ 61,140 at P 1; *see also N. Am. Elec. Reliability Corp*., Docket RD15-4-000 (2015) (delegated order) (approving Reliability Standard CIP-014-2); *N. Am. Elec. Reliability Corp*., 179 FERC ¶ 61,187 (2022) (approving Reliability Standard CIP-014-3).

[5] *See* Reliability Standard CIP-014-3 (Physical Security), Section A.3, Purpose.

[6] *See id.*, Section A.4, Applicability (setting forth the Applicability criteria).

transmission owner must have an unaffiliated third party verify the risk assessment. Applicable entities must then conduct an evaluation of the potential threats and vulnerabilities of a physical attack to each transmission station, substation and control center identified in the risk assessment, followed by the development and implementation of a documented physical security plan. The evaluation and physical security plan are also subject to unaffiliated, third-party review.[7]

II. Discussion

6. In recent months, there has been an increase in reports of physical attacks on electric substations. Some incidents have resulted in thousands of customer outages. On December 3, 2022, a physical attack on two substations in Moore County, North Carolina caused severe damage to the facilities. According to Duke Energy, two of its Moore County substations were disabled due to ballistic damage to transformers, resulting in approximately 45,000 customer outages.[8] Incidents at several substations located in the Pacific Northwest during November 2022 also resulted in damage to substation equipment as well as customer outages.[9] Federal authorities have also disrupted recent planned attacks before they were perpetrated.[10]

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[7] *See id*., Section B (Requirements and Measures) (providing additional detail regarding the physical security requirements set forth in the Physical Security Reliability Standard).

[8] *See* Duke Energy, *Duke Energy completes restoration to all customers in Moore County and surrounding counties* (Dec. 8, 2022), https://news.duke-energy.com/releases/duke-energy-completes-restoration-to-all-customers-in-moore-county-and-surrounding-counties; *see also* John Miller, Steve Almasy, and Whitney Wild, *Investigators are zeroing in on two possible motives centered around extremist behavior in NC power stations attacks*, CNN (Dec. 7, 2022), https://www.cnn.com/2022/12/07/us/power-outage-moore-county-investigation-wednesday/index.html.

[9] *See* Lauren Girgis and Hal Bernton, *PSE substations among six attacked in Pacific Northwest in November*, The Seattle Times (Dec. 8, 2022), https://www.seattletimes.com/seattle-news/law-justice/pse-substations-among-five-attacked-in-pacific-northwest-in-november/.

[10] *See* U.S., Dep't. of Just., *Three Men Plead Guilty to Conspiring to Provide Material Support to a Plot to Attack Power Grids in the United States* (Feb. 23, 2022), https://www.justice.gov/opa/pr/three-men-plead-guilty-conspiring-provide-material-support-plot-attack-power-grids-united.

7. In light of the need for continued vigilance against physical threats to the Bulk-Power System, we believe it is appropriate for NERC to provide an updated assessment of the effectiveness of the Physical Security Reliability Standard that considers, but is not limited to, the potential risks highlighted by recent events.[11] In particular, we believe that NERC should re-examine the Applicability criteria of the Physical Security Reliability Standard to determine whether additional Bulk-Power System transmission stations and substations and primary control centers should be subject to a risk assessment as set forth in Requirement R1 of the Physical Security Reliability Standard. Further, NERC should assess the adequacy of the Requirement R1 risk assessment. Currently, the only instruction regarding the risk assessment is that it shall consist of an analysis "designed to identify the Transmission stations or Transmission Substations that if rendered inoperable or damaged could result in instability, uncontrolled separation, or Cascading within an Interconnection." NERC should assess whether additional criteria or parameters to the Requirement R1 risk assessment (e.g., requiring stability analysis) should be added to ensure greater consistency among transmission owner risk assessments, and whether further refinement could result in a more methodical and accurate approach to identifying the transmission stations and substations and primary control centers that should be subject to physical security plans (as set forth in Requirements R5 of the Physical Security Reliability Standard). Finally, NERC should examine whether a minimum level of physical security protections should be required for all Bulk-Power System transmission stations and substations and primary control centers.

8. Accordingly, we direct NERC to conduct a study evaluating (1) the adequacy of the Applicability criteria set forth in the Physical Security Reliability Standard; (2) possible improvements to Requirement R1 by providing additional parameters or criteria regarding how applicable entities should conduct the required risk assessment; and (3) whether a minimum level of physical security protections should be required for all Bulk-Power System transmission stations and substations and primary control centers. We direct that NERC submit a report to the Commission on the study's findings and recommendations within 120 days of the issuance of this order.

[11] While recent events have had an impact both on the Bulk-Power System and distribution facilities, we clarify that NERC's assessment should focus on only risks to the Bulk-Power System.

The Commission orders:

NERC is hereby directed to conduct a study evaluating the effectiveness of the Physical Security Reliability Standard and submit a report within 120 days of the date of this order, as discussed in the body of this order.

By the Commission.

(S E A L)

Kimberly D. Bose,
Secretary.